

IOWA STATE COLLEGE

Summary of Report for the Biennium Ending June 30, 1922

ENROLLMENT

There were enrolled in all courses of instruction given on the campus at Ames 7,096 students in the second year of the biennium; in the preceding year the total was 6,203, duplicates excluded. In the regular collegiate year the enrollment in the second year of the biennium was 4,689. This does not include the second session and the winter short courses. The corresponding enrollment in the year before the Great War (1912-13) was 2,034. It is estimated that in the year 1922-23 the number will exceed 5,000.

The student enrollment in Iowa State College has increased consistently every year with the exception of the war period. The loss then was more than made up immediately following the war.

On account of the agricultural business situation the number of agricultural students in colleges throughout the country has not increased as rapidly as under normal conditions. In a good many states it has seriously fallen off. The enrollment in agriculture in this college during the biennium has held up remarkably well and even has exceeded the enrollment in any previous year and continues larger than the enrollment of any other division. There were practically 1,800 in the Agricultural Division in each of the years of the biennium.

The most rapid increase of enrollment is shown in the Home Economics Division. In the year 1911-12 there were 206 young women in home economics courses. Ten years later (1921-22) the number had increased to 923. Most of these after graduation accept positions as teachers in Iowa schools.

In harmony with the experience in other states, the enrollment in engineering has rapidly increased in recent years. The same is true of industrial science. The enrollment in veterinary medicine has not increased as it should have done considering the need for good veterinarians to protect the enormous livestock interests against heavy losses from disease. These interests represent hundreds of millions of dollars in value.

Carefully collected statistics show that students who take agricultural courses engage in agricultural work. For example, the

names and addresses of graduates from animal husbandry courses in recent years together with present occupations have been tabulated and the statement shows that the graduate who is not engaged in agricultural work of some kind is the the exception to the rule.

The law provides that residents of Iowa may attend Iowa State College without the payment of tuition. The Board of Education exacts a tuition fee of \$51.00 per year, or \$17.00 per quarter, from students from other states. This arrangement is comparable with the regulations in other states. Fees are collected from all the students to cover the cost of materials used in laboratories.

The United States Bureau of Education recently made a comprehensive study of the residence of students in universities and colleges in all states. Among many interesting items it is shown that only seven states have a smaller percentage of students from other states attending their institutions than is shown for Iowa. The total number of students attending the institutions in the state in the year 1920-21 is reported as 17,068 in Iowa; 14,853, or 87%, of these are residents of the state; 1,998, or 11.7% are residents of other states, and 217, or 1.3% are residents of foreign countries and American possessions. The number of Iowa residents who attend institutions in other states is given as 4,014.

It is interesting to note that the number of students in universities, colleges and professional schools (except independent theological schools and teacher training institutions) in the United States in 1920-21, according to the United States Bureau of Education, was 448,267. The total number of prisoners in penal and reformatory institutions, insane in hospitals, and paupers in public almshouses in the United States, according to the Bureau of the Census, for 1910 was 387,487. The statistics for 1920 are not at hand.

THE STAFF AND ITS WORK

For the purposes of economy a considerable number of teachers are employed on part time. Their services are secured on especially favorable terms because in the balance of their time they are completing their own courses of study. The teaching staff reduced to full time basis numbers approximately 360 persons. On account of the large increase of enrollment it has become necessary to increase the size of classes beyond desirable numbers and to increase the teaching load of the faculty. It is generally considered that one teacher will care for, to the best advantage, about 250 student hours per per week. In this college, however, some teachers are carrying in excess of 600 student hours per week.

One of the principal difficulties in recent years has been the large number of changes of teachers every year. This may run as high as 150 new teachers in a single year. The difficulty of introducing so many new teachers and making their work efficient from the first readily can be imagined. A chief reason for so many changes lies in the fact that the level of salaries is considered to be unfavorable as compared with other similar institutions.

The importance of having a reasonable portion of the staff especially well trained can hardly be over-stated. Such persons are the ones who do well not only the routine work but who also comprehend serious problems and who are constantly trying to solve these problems. The ability of one man may produce new methods of production which will effect savings for the state amounting in a single year to much more than the entire cost of maintaining and developing the institution. Fortunately that has occurred not once but a number of times. It is the work of such persons on the staff which makes it possible to say that the appropriations for the support of the college really represent an investment rather than an expense to the people of the state and the investment returns enormous cash dividends as well as great advantages which cannot be measured in dollars.

THE WORK OF THE COLLEGE SAVES MILLIONS

A chief tax gatherer in Iowa is the insect. Conservative estimates show that insects eat and destroy values totaling far in excess of fifty millions of dollars per year in Iowa alone. Through research and through extension activities, methods of combating these pests are being made known constantly to more and more people with the result that the losses are held more and more in check.

During the past season representatives of the Extension Service have performed exceptionally notable work in showing farmers how to control losses caused by the Hessian fly. In a single county the savings on this account alone are estimated conservatively to be as large as \$100,000. Without such work as the Extension Service performed some persons would have paid that amount of money, perhaps a little less but probably a great deal more.

Another striking example of cash profits to the state may be found in connection with animal diseases. In the year 1913 losses from hog cholera in Iowa amounted to about \$28,000,000. The legislature enacted a law providing for research, education, and a certain measure of control and made the Division of Veterinary Medicine of this college responsible for the enforcement of this law. The situation was serious throughout the entire

state. Reliable serum was produced at the college and reliability of other serum was required. Other measures were taken with the result that the losses rapidly decreased. Last year it was estimated that losses from hog cholera amounted to about \$5,000,000, and losses from all animal diseases combined amounted to about \$12,000,000. It is further estimated that without the work of the college last year these losses would have been at least \$6,000,000 more. To appreciate this fact one should see the specimens that come to the veterinary division from veterinarians and farmers. These packages constitute a big item of business for the express companies and the parcel post.

Additional items might be quoted to show the profits that come to the farmers and, therefore, to all the people of the state through better methods of farming as developed in the experiment station and broadcasted through agricultural courses and short courses on the campus and especially through the extension service which reaches all parts of the state. These profits include the additional income to the farmers of the state through the use of improved oats developed at Iowa State College. This single item amounted last year to about three and one-half million dollars. Still larger profits are being enjoyed through better methods of soil management and improvement, better methods of feeding live stock, and better methods of manufacturing dairy products.

IOWA SOIL SURVEYS OF LARGE VALUE

One would hesitate to attempt to estimate the value to the farmers and to all the people of the state of improvements worked out in connection with the Iowa soil surveys. Credit is due to many farmers for cooperation in this work. The results have been widely published and are available to all farmers and very many of them are taking advantage of the information given. The "Iowa system of soil management" assures fertility of Iowa soils and maximum crop yields. This system is based on drainage, crop rotations, and the scientific, not the wasteful, use of limestone, phosphate and organic matter. Extensive experiments in southern Iowa on the Grundy silt loam have shown increased yields through improved methods of soil management, amounting per acre to 15.8 bushels of corn, 19.3 bushels of oats, 12.3 bushels of wheat, and .88 tons of clover. These increased yields with relatively small increase of cost of production mean a large cut in the cost of producing a unit of either crop. The farmer who takes advantage of these better methods reduces the cost of production and finds himself in a correspondingly better financial situation at the close of the season.

In eastern Iowa on the Muscatine silt loam the increases of crops amounts to 9.3 bushels of corn, 8.6 bushels of oats, 9.7 bushels of wheat, and .5 tons of clover.

In north central Iowa on the Carrington loam the increase amounts to 14.4 bushels of corn, 17.2 bushels of oats, and 1.02 tons of clover.

In western Iowa on the Marshall silt loam the increases amounts to 13.2 bushels of corn, 13.0 bushels of oats, 15.4 bushels of wheat, and 2.07 tons of clover.

And in eastern central Iowa on the Tama silt loam the increases amount to 15.3 bushels of corn, 12. bushels of oats, and .97 tons of clover.

Soil experiments are being conducted cooperatively with farmers on ninety-five experimental fields located on the principal soil types of the state. These are giving information that is often surprising. The work is repeated when necessary to assure accurate information regarding the fertilizer needs of different kinds of soils. These experiments apply to more than one-half of the area of the state. They are supplemented by pot culture tests of soils in the greenhouses.

The discovery of the low phosphate content of many Iowa farms and instructions as to use of rock phosphate or acid phosphate is an item in itself worth millions of dollars to the state.

LARGE FINANCIAL BENEFITS FROM LIVE STOCK WORK

It would be a formidable proposition also to estimate the financial benefits that have come to the state on account of the experiments, instruction and extension work in connection with feeding live stock. Perhaps the best testimony is that which comes from farmers themselves. Those who have used methods worked out at the college and often in cooperation with skillful feeders in different parts of the state, report average estimated savings of about \$150.00 per farm per year. A leader in agriculture who is not connected with the college, estimates that the work performed by the experiment station in swine feeding "has increased the wealth producing power in Iowa by four million dollars annually."

It is estimated that over 700,000 acres of corn were hogged down in 1920. This method of saving labor has been strongly advocated by the college as a result of experiments and observations and the collection of a large amount of data.

There are now nearly 30,000 silos in Iowa. Methods of construction and advantages of using silos have been advocated in college publications and news items and an enormous number of letters on this subject have been answered. Probably through

this agency alone the farmers of the state have profited much more than a million dollars in a year.

Savings from better hog house construction and from the best utilization of farm grown feeds and other equally important activities would show a very large total.

The service of the Home Economics Division affects more or less a large proportion of the homes of the state. A farm woman recently enumerated the benefits she had received and she made specific reference to better food in her home, to important economies, to greater satisfaction in making dresses and hats, and to improvements in the management of the home which meant more comfort, less expense and a large measure of benefits. There are countless ways in which science may be profitably applied to home making and such instruction, after years of experience, is now reduced to plain terms and is given in accordance with genuine college standards.

Through the Engineering Experiment Station, the Engineering Extension and instruction in class rooms, newly discovered facts of value to industry are being made available to the people of Iowa. The discovery of cheaper and more accurate methods of making concrete has attracted wide attention and is proving worth many millions of dollars. The development of rules for determining the required strength of tile under different conditions means much in a state where drainage operations run high into the millions of dollars. Recent work of the Engineering Division of conspicuous value relates to the conservation of gasoline by cars driven over different road conditions. One investigation has brought out new information on the impact of vehicles on bridges which is of great importance in bridge construction. The investigations showing the best methods of using Iowa coals are widely known and used throughout the state.

Often prominent visitors at the college offer the criticism that more publicity should be given to the benefits resulting from the work of the college. It is said that the people who support the college have the right to be better informed. This criticism may be sound although reports of the different college activities are issued from time to time and are sent to all who request them. Detailed reports of experiment station work and extension service have been distributed.

BUILDINGS

The building equipment of the college has not increased as rapidly as the student enrollment and the result is that classrooms, laboratories, and offices are overcrowded. The result of such overcrowding is not only a reduction of efficiency but exposure to unhealthful conditions.

The relieve the situation a few temporary shacks have been put into use, attics and cellars of college buildings have been transformed into instruction rooms, additional space has been rented off the campus, and a railroad station on the campus has been taken over for college purposes. Classrooms have been subdivided by temporary partitions into two, three, and even four smaller rooms. Canvas curtains are used in larger rooms so that two classes may be conducted at the same hour, but in some cases two and even three classes have been conducted in the same room at the same time without even curtains between.

It is claimed by those who are most familiar with the subject that at the costs prevalent during recent years there should be an investment in building equipment of \$1500 for each college student. This would mean that at Iowa State College, with the enrollment increasing at an average of 334 students per year, there should be an added investment of about \$500,000 per year. But the fact is that the added investment for instruction facilities has been below \$100,000 in some years and seldom over \$200,000.

HOME ECONOMICS WORK CROWDED INTO SHACKS

The Home Economics Division is desperately in need of a suitable building. The building now in use was erected about eleven years ago and has a capacity of about 250 students. The enrollment this year is 1050. Additional space has been found by utilizing a flimsy Y. M. C. A. hut which was hastily put up for use in the army camp during the war and by the use of a shed which was built about nine years ago as a temporary chemistry building. It was intended to serve for one year and then it was to be torn down. A third temporary wooden structure has been added. Space has been borrowed in several other college buildings which already were overcrowded. The value of the home economics work to the home of Iowa is seriously reduced because of such unsatisfactory housing. One does not want to refer to the advantages of instruction in home economics from the standpoint of dollars. It relates to human welfare in a far deeper sense. The strength of the nation rests squarely upon the homes throughout the states. The women themselves are the best judges of the value of the work in home economics, and they are emphatic in commendation. But there is a financial side that is worthy of consideration. Most of the money that is earned by the heads of families is expended through the homes. Even a little knowledge as to how to make these expenditures more wisely, represents a large total when applied to all the homes or to a considerable number of them.

The dairy Department is still using a building which was put up years ago and intended for an enrollment of about one quarter as many students as are now taking this work. The building is so overcrowded that it has been impossible to give any instruction in some of the most important phases of dairy work. The state is suffering accordingly. It is estimated that the present building is capable of caring for only about 40% of the present requirements for dairy instruction. The value of dairy products in Iowa was \$126,000,000, last year. Creamery men and dairy men are constantly calling for information as to how to improve their processes and this information is resulting in better quality of products, greater economy in production, and larger net returns.

COLLEGE HOSPITAL ONLY ONE-HALF LARGE ENOUGH

The College Hospital is well adapted to an enrollment about one-half as large as the present number of students. Additional beds have been crowded into wards and even into corridors and to such an extent that it is impossible to give proper care to sick students. An addition to the hospital is a crying need at the present time. With it there will be less serious sickness and fewer Iowa parents and taxpayers will incur the expense of a trip to Ames to visit their sick sons and daughters and very many parents will be spared many anxious hours.

The beef industry of the state is calling for better facilities for instruction along its line. The college is still using a very old and altogether inadequate barn for beef cattle.

The college Gymnasium, which means much to the health and vigor and mental alertness of the students, is seriously overcrowded, even to the extent that many students are unable to get the exercise they want and should have. An addition to the building is urgently needed.

Shops in the Engineering Division are operated to full capacity and are insufficient to care for the needs. Some important lines of instruction have been abandoned because of lack of room. This is an injustice to the students, who will come into competition in later life with others who have been trained where they were not so seriously handicapped.

The Buildings and Grounds Department of the college includes all repair facilities and large economies would be effected if this department could have a suitable building for its shops and materials. At the present time there is no suitable place for the storage of materials and they are kept in many places without proper supervision and with losses and deterioration which are unavoidable.

In general there is great need also for additional class rooms and office space. Many offices intended for one or two teachers now accommodate three to six. It is obvious that serious concentrated work and helpful conferences with students cannot be well done under such conditions.

The erection of dormitories is proposed on a basis whereby the cost would be returned to the state from annual earnings. The college is located apart from the main portion of the city. Rooming facilities are insufficient, prices are not stabilized, and sanitary requirements are not provided. Experience in a number of other institutions as well as in this college shows that dormitories can be conducted on a profitable basis. There are now no dormitories for men, but most of the women are in college dormitories. It is interesting to know that although there are three times as many men as women in the college there is more than ten times as much sickness among the men as among the women. This is unquestionably due to the poor housing facilities available to the men.

ASKINGS

The askings for the college are indicated in a separate publication. They represent an increase for maintenance practically in the same proportion as the increase of enrollment during the last biennium. It is not now proposed to go further and make up for shortages which have been developing and increasing during the last six or eight years. Provision is recommended also for the purchase of necessary land and the erection of buildings most urgently needed.

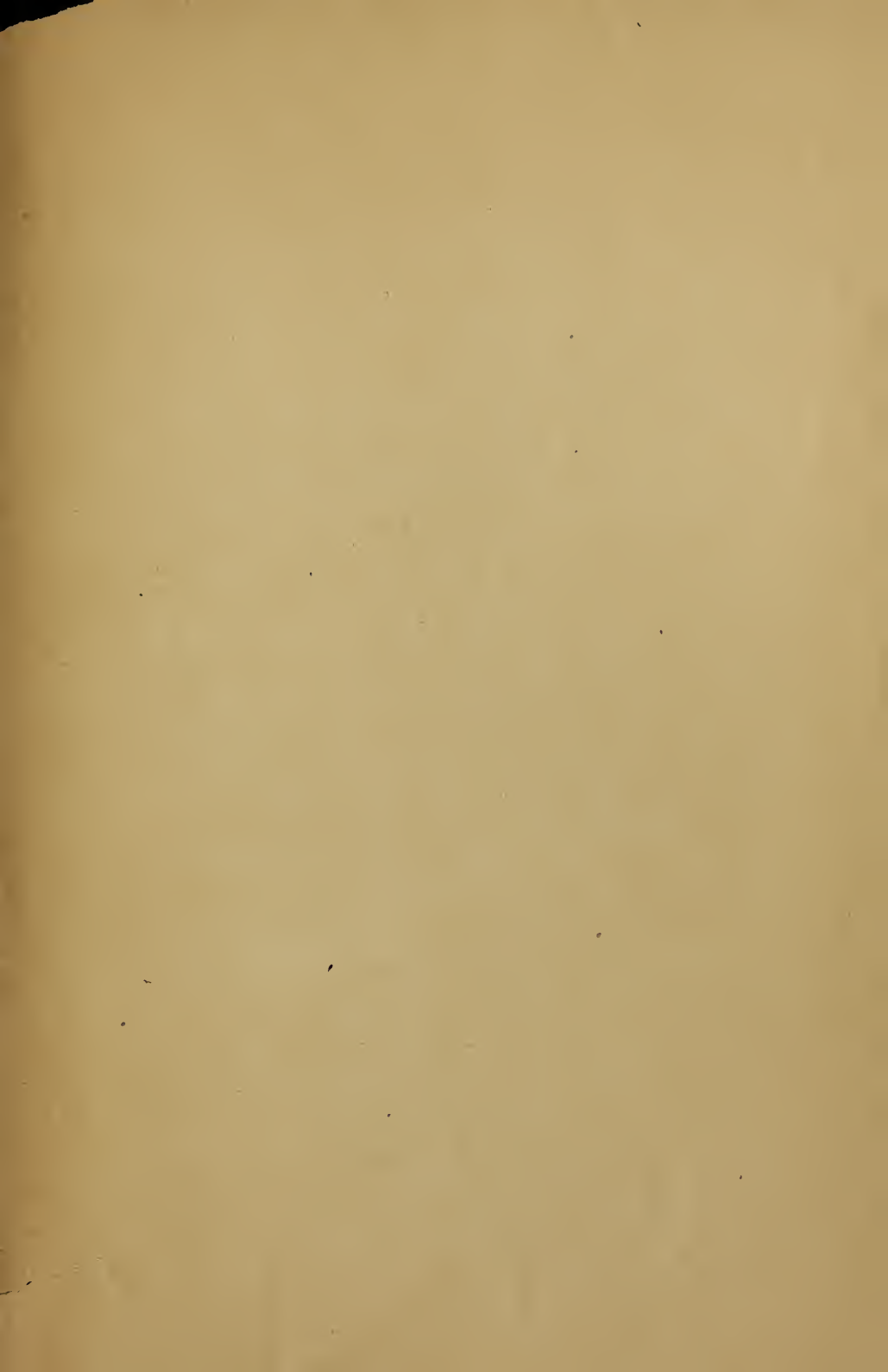
A statement of receipts and disbursements for the biennium is shown on pages 12 and 13, following.

Summary of Receipts and Disbursements of all Funds for the Biennial Period, Showing Balances in the Hands of the College Treasurer at the Beginning and at the End of the Period.

	Balance July 1, 1920	Receipts 1920-21	Receipts 1921-22	Total Receipts	Expendi- tures 1920-21	Expendi- tures 1921-22	Total Expendi- tures	Balance June 30, 1922
EDUCATIONAL FUNDS:								
Collegiate Support Fund	\$ 72,102.77	\$1,192,896.75	\$1,521,169.40	\$2,786,168.92	\$1,219,813.87	\$1,546,684.53	\$2,766,498.40	\$ 19,670.52
Non-Collegiate Support Fund	2,255.66	117,594.75	118,104.81	237,955.22	121,250.81	137,455.50	258,706.31	-20,751.09
Summer Session	9,200.81	28,255.05	44,855.56	82,311.42	36,095.93	43,937.17	80,035.10	2,278.32
Winter Short Courses	7,810.11	19,000.00	9,500.00	36,310.11	23,814.80	7,412.95	31,227.75	5,082.36
Veterinary Practitioners' course	1,538.70	4,166.68	2,500.00	8,205.38	5,023.65	2,280.80	7,274.45	930.93
BLDG. & EQUIPMENT FUNDS:								
Additional Constr. & Equip.	---	---	60,000.00	60,000.00	---	59,128.81	59,128.81	871.19
Animal Husbandry Farm	---	74,092.46	---	74,092.46	74,092.46	---	74,092.46	---
Armory	158.69	104,500.00	5,300.00	109,958.69	104,550.30	5,359.87	109,910.17	48.52
Books and Periodicals	17.62	15,000.00	25,000.00	40,017.62	14,291.54	18,239.37	32,530.91	7,486.71
Constr. of Bldgs. & Purchase of land	---	---	113,500.00	113,500.00	---	112,765.40	112,765.40	734.60
Enlargement of Bldgs. & Small Bldgs	49.61	15,500.00	12,700.00	28,249.61	15,539.51	13,610.56	29,150.07	- 900.46
Equipment of Bldgs. & Departments	170.96	123,400.00	29,000.00	152,570.96	123,527.37	31,092.49	154,619.86	-2,048.90
Extension of Heating System	426.10	9,250.00	53,400.00	63,076.10	9,032.41	52,977.38	62,009.79	1,066.31
Lake LaVerne	68.27	---	---	68.27	---	---	---	68.27
Library Building	---	---	5,000.00	5,000.00	---	8.93	8.93	4,991.07
Public Grounds, Main. & Imp.	1,509.52	23,750.03	20,000.00	45,259.55	23,455.01	20,552.50	44,037.51	1,222.04
Repairs & Imprvs. Dairy Bldg., etc.	1,067.70	---	2,500.00	3,567.70	485.48	1,942.43	2,427.91	1,139.79
Repairs, Barns, Pavilions & Fences	16.77	4,300.00	11,400.00	15,716.77	4,462.80	4,326.37	8,789.17	6,927.60
Repairs & Minor Improvements	1,767.92	54,166.70	56,000.00	111,934.62	55,638.96	52,357.51	107,996.47	3,938.15
Room Rent	9,558.77	56,637.43	61,871.06	128,067.26	67,767.10	50,280.41	118,047.51	10,019.75
Sewer Construction	771.25	4,000.00	4,100.00	8,871.25	4,386.17	4,424.86	8,811.03	60.22
Special Building Fund	63.10	78,016.84	32,783.16	110,863.10	74,349.29	34,491.95	108,841.24	2,021.86
Storeroom Account	430.35	29,700.55	42,936.00	73,066.90	29,673.63	39,494.51	69,168.14	3,898.76
Temporary Home Economics Labs.	209.21	---	---	209.21	78.12	---	78.12	131.09
	\$109,193.89	\$1,954,227.24	\$2,231,619.99	\$4,295,041.12	\$2,007,359.21	\$2,233,794.30	\$4,246,153.51	\$ 48,887.61

INDUSTRIAL SERVICE FUNDS:								
Agr'l & Home Econ. Extension	23,799.36	253,989.02	337,296.62	615,085.00	263,968.26	330,692.78	594,661.04	20,423.96
Apiary Inspection	9.02	1,500.00	1,500.00	3,009.02	1,320.79	1,673.38	2,994.17	14.85
Engineering Extension	2,113.56	51,583.35	33,926.81	87,623.72	44,251.73	33,749.35	78,001.08	9,622.61
Agr'l Experiment Station	66,980.05	245,500.00	280,000.00	592,480.05	282,406.80	277,778.36	560,185.16	32,294.89
Engineering Experiment Station	2,695.98	27,033.35	35,000.00	64,779.33	28,560.46	35,971.70	64,532.16	247.17
Good Roads Experimentation	19.21	13,333.34	10,000.00	23,352.55	12,573.30	10,718.81	23,297.11	55.44
Veterinary Investigations	91.49	24,500.00	18,500.00	43,091.49	24,321.40	18,550.89	42,872.29	219.20
Hog Cholera Serum	19,012.74	8,657.50	11,884.53	39,554.77	25,025.39	12,111.48	37,136.87	2,417.99
	\$114,721.41	\$ 626,146.56	\$ 728,107.96	\$1,468,975.93	\$ 624,433.13	\$ 721,246.75	\$1,393,679.88	\$ 65,296.05
TOTAL, ALL FUNDS	\$223,915.30	\$2,579,180.67	\$2,959,727.95	\$5,764,017.05	\$2,689,792.34	\$2,960,041.05	\$5,649,833.39	\$ 114,183.66

THE LIBRARY OF THE
JAN 8 1931
UNIVERSITY OF ILLINOIS





3 0112 105653320